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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/897,495	07/03/2001	Rauf Izmailov	A7870	2079

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EXAMINER

TSEGAYE, SABA

ART UNIT PAPER NUMBER

2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 09/897,495	Applicant(s) IZMAILOV ET AL.	
	Examiner Saba Tsegaye	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10 is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the amendment filed 01/05/07. Claims 1-20 are pending. Claim 10 is allowed. Claims 1-9 and 11-20 are rejected.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-9 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 1 recites, “ a method of generating and optimal path in a domain, comprising: estimating a traffic volume... constricting a traffic matrix... computing a provisioning route... readjusting the traffic matrix in response to the computed provisioning route...” which is directed data gathering and mathematical operation without being limited to a practical application.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 11-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 11, the phrase "wherein..." renders the claim indefinite because the limitations following the phrase have no structure to perform the claimed intended function.

Claim Rejections - 35 USC § 102

5. Claims 11 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Shaffer et al. (US 6,236,642 B1).

Shaffer discloses a network for path provisioning of and SLA, comprising:

a plurality of edge nodes that one of receive and transmit a prescribed amount of traffic in accordance with the SLA (a network control unit reserves the initial rout from source node to the end node); and

a plurality of links (157-171) that couple receiving and transmitting edge nodes (151) to one another, each of the links having a maximum capacity (column 3, lines 7-15), wherein an optimal path is calculated for a current suboptimal path by resetting a previously calculated path if a cost of the resetting step for the previously calculated path is less than a cost of suboptimality for the current suboptimal path (the cost of the newly reserved route is compared to the cost of the current route, if the newly reserve route is more cost effective than the current route then the call is rerouted to the more optimal route (column 5, lines 16-26; fig. 4)).

Claim Rejections - 35 USC § 103

6. Claims 1, 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over The Admitted Prior Art (page 4, lines 4-13) in view of Meempat et al. (US 6,778,496 B1).

Regarding claim 1, The Admitted Prior Art discloses a method of garneting an optimal path in a domain, comprising: estimating a traffic volume of the domain; constructing a traffic matrix in accordance with the estimated traffic volume; and computing a provisioning route for each non-zero element of the traffic matrix (page 4, lines 4-13). The Admitted Prior Art fail to disclose wherein the method is performed at least one class in descending order of priority and readjusting the traffic matrix in response to the computed provisioning route.

Meempat teaches selecting a path through a network based on combination criteria of having smaller bottleneck link utilization and having fewer links compared to other paths. Each path is comprised of links that are adapted to discriminate between different classes of packet streams and updating a cost metric by measuring usage of individual class.

It would have been obvious to one ordinary skill in the art to modify Suominen's method to perform for at least one class in descending order of priority and readjusting the traffic matrix, as taught by Meempat. The motivation is more integrated and efficient system that provides quality of service guarantees to packet streams entering the network and serves customer demand with high priority before servicing customer demand with low priority.

Regarding claim 2, The Admitted Prior Art discloses the method wherein the domain comprises one of an IP backbone network and a network having a plurality of core nodes connected via logical links to gateway nodes of neighboring domains and least one bypass node connected to at least one of the core nodes (see fig. 1).

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Regarding claim 4, The Admitted Prior Art discloses the method further comprising maximizing a traffic acceptance rate, and minimizing a hop-bandwidth product (page 6, lines 16-21).

7. Claims 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaffer et al. (US6, 236,642 B1) in view of Meempat et al. (6,778,496).

Regarding claim 12, Shaffer discloses all the claim limitations as stated above, except for Diffserv policy.

Meempat teaches that a Diffserv is implemented at the router to support QoS. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Shaffer's router to utilize Diffserv policy, as taught by Meempat. The motivation is to provide an efficient technique for providing QoS of data transfer over the network.

Regarding claim 14, Shaffer discloses a communications network carrying data, which is particularly useful for real-time or isochronous data such as voice, video or other data. However, Shaffer does not expressly disclose an IP backbone network.

Meempat teaches voice in IP-based network. IP has become the global standard for networking, therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to migrate Shaffer's communicants network to IP-based network, as taught by Meempat in order to provide communication system that support global standard for networking, which includes Internet, LANs, data and voice networks of the carriers.

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8. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shaffer et al. (US6, 236,642 B1) in view of Beshai et al. (US 6,339,488).

Shaffer discloses all the claim limitations as stated above, except for optical network and capacity comprises optical wavelength.

Beshai teaches a fully meshed telecommunications network in which an optical dual ring is used as the core transport network and carries wavelength multiplexed optical signal. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Shaffer by replacing the network with the optical network, as taught by Beshai. Such modification would have been to enable Shaffer's method of routing to be utilized in the well-known optical network, which is a change in field of use and involves only routine skill in the art.

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over The Admitted Prior Art in view of Meempat et al. as applied to claim 1 above, and further in view of Shaffer et al. (US 6,236,642).

The Admitted Prior Art in view of Meempat et al. discloses all the claim limitation as stated above except for evaluating cost benefits of reversing a path of at least one previously provisioned flow.

Shaffer teaches that a route comparator determines whether an alternate route is more optimal and cost effective than the initial route and the reroute control unit establishes the alternate route and reroutes the data cover the alternate route.

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It would have been obvious to one of ordinary skill in the art the time the invention was made to modify the teachings of The Admitted Prior Art in view of Meempat et al. by evaluating cost benefits of reversing a path, as taught by Shaffer in order to provide a system that packet ordering problems are eliminated and route optimization through rerouting is enabled for real-time data (Shaffer; column 2, lines 28-34).

10. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over The Admitted Prior Art in view of Meempat et al. as applied to claim 1 above, and further in view of Beshai et al.

The Admitted Prior Art in view of Meempat et al. discloses all the claim limitations as stated above, except for optical network and capacity comprises optical wavelength.

Beshai teaches a fully meshed telecommunications network in which an optical dual ring is used as the core transport network and carries wavelength multiplexed optical signal. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of The Admitted Prior Art in view of Meempat et al. by replacing the network with the optical network, as taught by Beshai. Such modification would have been to enable The Admitted Prior Art in view of Meempat's method of routing to be utilized in the well-known optical network, which is a change in field of use and involves only routine skill in the art.

Allowable Subject Matter

11. Claim 10 is allowed.

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12. Claims 5-8 and 16-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

13. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saba Tsegaye whose telephone number is (571) 272-3091. The examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ST
March 13, 2007


CHI PHAM
SUPERVISORY PATENT EXAMINER

3/13/07